### As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled

or the applicant	MI CHUID	u ,			
МЕТН	ODS FO	R IDENTIFYING NON BTHRESHOLD SLOP	N-VOLATILE MEMORY ELEMI E OR WEAK TRANSCONDUCT	ENTS WITI TANCE	H POOR
which (check)	$\boxtimes$	is attached hereto.			
		and is amended by the	e Preliminary Amendment attache	d hereto.	
		was filed on as Ap	oplication Serial No.		
		and was amended on	(if applicable).		
I acknowledge the of Federal Regul  I hereby claim for application(s) for	ne duty to ations, § oreign pri	y any amendment referronders of disclose information, volume 1.56.  Ority benefits under Titler inventor's certificate of	which is material to patentability a le 35, United States Code, § 119(a parany PCT international application	s defined in	Title 37, Code
one country other	r patent o r than the	r inventor's certificate of	ica listed below and have also identify any PCT international application ica filed by me on the same subjectority is claimed:	m(s) design	ating at least
		Prior Foreign Applica	tion(s)	Priority	Claimed
Number		Country	Day/Month/Year Filed	Yes	No
N/A	<u> </u>				
I hereby claim the application(s) list	e benefit ed below	under Title 35, United 8	States Code, § 119(e) of any Unite	d States pro	visional
Provision	al Appli	cation Number	Filing Dat	e	
	N/A		,		
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I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

	<u> </u>	
Application Serial No.	Filing Date	Status (patented, pending, abandoned)
N/A		
	<u> </u>	

Attor Docket No.: SNDK.301US0

I declare that all statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and all statements made herein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be subject to the penalties including fine or imprisonment or both as set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or this document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

Full name of sole (or j Inventor's Signature:	joint) inventor: J Jeffrey W. Lutze	Date:	8/19/03
Residence:	1906 Adele Place	_	0111100
Post Office Address:	San Jose, CA 95125 same as above	Citizenship:	U.S.A.
Full name of sole (or j Inventor's Signature:	oint) inventor:  Jun  Jian Chen	Date:	8/21/03
Residence:	5476 Castle Glen Avenue		
	San Jose, CA 95129		
Post Office Address:	same as above	Citizenship:	U.S.A.
Full name of sole (or joinventor's Signature: Residence:	Yan Li Yan Li 1775 Milmont Drive, Apt. M201 Milpitas, CA 95035	Date:	8/21/63
Post Office Address:	same as above	Citizenship:	U.S.A.
Full name of sole (or jo Inventor's Signature:	int) inventor: Kazunori Kanebako	Date:	
Residence:	6-1-13-102, Kounandai, Kounan-Ku,		
	Yokohama 234-0054, Japan		·
Post Office Address:	same as above	Citizenshin:	Ianan

Attor	Docket	No.:	SNDK	.301US0

Full name of sole (or joint) inventor:		omoharu Tanaka			
Inventor's Signature:			Date:		
Residence:	2-13-21-105, Ookubo, K	ounan-ku	-		
•	Yokohama, Japan				,
Post Office Address:			Citizenship:	Japan	

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled

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which (check)	hich (check) is attached hereto.  and is amended by the Preliminary Amendment attached hereto.					
•				ned hereto.		
		was filed on as A	pplication Serial No.		•	
		and was amended on	(if applicable).			
I hereby state that the claims, as an	nt I have nended b	reviewed and understar y any amendment refer	nd the contents of the above idented to above.	tified specific	ation, includin	
I acknowledge the of Federal Regul	ne duty to ations, §	o disclose information, 1.56.	which is material to patentability	as defined in	Title 37, Code	
one country other application(s) for one country other	patent of than the patent of than the	or inventor's certificate of e United States of Amer or inventor's certificate of	le 35, United States Code, § 119 or any PCT international application itself below and have also idear any PCT international application filed by me on the same subjective its claimed:	tion(s) designation(s) designation(s) designation	ating at least w any foreign	
		Prior Foreign Applica	tion(s)	Priority	Claimed	
Number		Country	Day/Month/Year Filed	Yes	No	
N/A						
I hereby claim the application(s) list	benefit ed below	under Title 35, United 97:	States Code, § 119(e) of any Uni	ted States pro	visional	
Provision	al Appli	cation Number	Filing Da	ate		
	N/A					
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I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status (patented, pending, abandoned)
N/A		

Atto Docket No.: SNDK.301US0

I declare that all statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and all statements made herein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be subject to the penalties including fine or imprisonment or both as set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or this document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

Full name of sole (or joint Inventor's Signature:	oint) inventor: Jeffrey W. Lutze	Date:	·
Residence:	1906 Adele Place	<del></del>	
	San Jose, CA 95125		
Post Office Address:	same as above	Citizenship:	U.S.A.
Full name of sole (or jo	int) inventor: Jian Chen	•	
Inventor's Signature:		Date:	•
Residence:	5476 Castle Glen Avenue	<del>.</del>	
•	San Jose, CA 95129		
Post Office Address:	same as above	Citizenship:	U.S.A.
Full name of sole (or jo Inventor's Signature:	int) inventor: Yan Li	Date:	
Residence:	1775 Milmont Drive, Apt. M201	-	
•	Milpitas, CA 95035		
Post Office Address:	same as above	Citizenship:	U.S.A.
Full name of sole (or joi	nt) inventor: Kazunori Kanebako		
nventor's Signature:	Kazurori (Conebako	Date:	Sept. 1. 2003
Residence:	6-1-13-102, Kounandai, Kounan-Ku,		
	Yokohama 234-0054, Japan		
Post Office Address:	same as above	Citizenshin:	Ianan

Full name of sole (or joint) inventor:

Tomoharu Tanaka

Inventor's Signature:

Residence:

2-13-21-105, Ookubo, Kounan-ku

Yokohama, Japan

Post Office Address:

Date:

August 25, 2003

Citizenship: J

Japan



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Jeffrey W. Lutze, Jian Chen, Yan Li, Kazunori Kanebako, Tomoharu

Tanaka

Assignee:

SanDisk Corporation and Kabushiki Kaisha Toshiba

Title:

METHODS FOR IDENTIFYING NON-VOLATILE MEMORY ELEMENTS WITH POOR SUBTHRESHOLD SLOPE OR WEAK

TRANSCONDUCTANCE

Application No.:

Unassigned

Filing Date:

Herewith

Examiner:

Unassigned

Group Art Unit:

Unassigned

Docket No.:

**SNDK.301US0** 

Conf. No.:

Unassigned

COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, VA 22313-1450

### POWER OF ATTORNEY BY ASSIGNEE

Sir:

The above-identified assignee, SanDisk Corporation, a Delaware corporation, who has been assigned an interest in the patent application identified above, hereby appoints the attorney and identified by the following Customer Number to prosecute the above-identified application and to transact all business in the United States Patent and Trademark Office in connection therewith:

**Customer Number 36257** 

Please direct all telephone calls to:

Michael G. Cleveland Telephone No.: (415) 318-1160 Fax No.: (415) 693-0194

## ASSIGNEE CERTIFICATION UNDER 37 CFR 3.73(B)

The undersigned representative of the above-identified assignee certifies that the above-identified assignee is the assignee of an interest in the above-identified patent application by virtue of a chain of title from one of the inventors of the above-identified patent application to

the above-identified assignee as shown below:

From: <u>Jeffrey W. Lutze, Jian Chen, and Yan Li</u> To <u>SanDisk Corporation</u> for which a copy thereof is attached.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the above-identified assignee.

September 10, 2003

Date

Name: Charles Van Orden

Title: Vice President and General Counsel

Attorney Docket No.: SNDK.301US0

## **ASSIGNMENT**

For good and valuable consideration, receipt of which is hereby acknowledged, we, Jeffrey W. Lutze of San Jose, CA, Jian Chen of San Jose, CA, and Yan Li of Milpitas, CA, hereby sell, assign and transfer to SanDisk Corporation, a Delaware corporation, having a place of business at 140 Caspian Court, Sunnyvale, California, 94089, its successors and assigns, the entire right, title and interest throughout the world in our invention in:

## METHODS FOR IDENTIFYING NON-VOLATILE MEMORY ELEMENTS WITH POOR SUBTHRESHOLD SLOPE OR WEAK TRANSCONDUCTANCE

for which we have executed a United States patent application on or about the date of this assignment, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from us; we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, their successors, assigns and nominees, at their request and expense, in obtaining and enforcing patents for said invention in all countries; and we request that the United States Patent and Trademark Office issue all patents granted for said invention to the above-named assignee, its successors and assigns.

Executed this 19	_day ofAugust		, 2003	•
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## EXPRESS MAIL NO.: EV 321716341 US ATTO

ATTORNEY DOCKET NO: SNDK.301US0

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

# RECORDATION FORM COVER SHEET PATENTS ONLY

AIEN	IS OIL1
TO THE HONORABLE DIRECTOR OF THE UNITED STATES PATEN ORIGINAL DOCUMENTS OR COPY THEREOF.	T AND TRADEMARK OFFICE. PLEASE RECORD THE ATTACHED
Name of conveying party(ies):     (a) Kazunori Kanebako     (b) Tomoharu Tanaka	Name and address of receiving party(ies):
	Name: Kabushiki Kaisha Toshiba
Additional name(s) of conveying party(ies) attached?	1-1, Shibaura 1-chome, Minato-ku
☐ Yes ⊠ No	Tokyo JAPAN
3. Nature of Conveyance:	Name and address of receiving party(ies):
Assignment Merger	Name:
Security Agreement Change of Name	Street Address:
Other	City: State: Zip:
Execution Date: (a) 9/01/03 (b) 8/25/03	Country: Additional name(s) & address(es) attached?  Yes No
Application number(s) or patent number(s):	
If this document is being filed together with a new application, the	ne execution date of the application is: 9/01/03, 8/25/03
A. Patent Application No.(s) -  Title:	B. Patent No.(s)
Additional numl	bers attached? Yes No
Name and address of party to whom correspondence concerning document should be mailed:	Total number of applications and patents involved:
Name: Michael G. Cleveland	
Internal Address: Parsons Hsue & de Runtz LLP	
Street Address: 655 Montgomery Street, Suite 1800	
City <u>San Francisco</u> State <u>CA</u> Zip <u>94111</u>	7. Total fee (37 CFR 3.41): \$40.00  A check is enclosed that includes the total fee.
	Charge Deposit Account 502664 for any additional fees required for this conveyance and credit
DO NOT USE TH	deposit account 502664 any amounts overpaid HIS SPACE
Statement and signature.	
To the best of my knowledge and belief, the foregoing information original document.	is true and correct and any attached copy is a true copy of the
Name of Person Signing	Signature Sant 17, 200
	nber of pages including cover shoot attachments and decree a

Attorney Docket No.: SNDK.301US0

#### **ASSIGNMENT**

For good and valuable consideration, receipt of which is hereby acknowledged, we, Kazunori Kanebako of Yokohama, Japan and Tomoharu Tanaka, of Yokohama, Japan, hereby sell, assign and transfer to Kabushiki Kaisha Toshiba, a Japanese corporation, having a place of business at 1-1, Shibaura 1-chome, Minato-ku, Tokyo, Japan, its successors and assigns, the entire right, title and interest throughout the world in our invention in:

## METHODS FOR IDENTIFYING NON-VOLATILE MEMORY ELEMENTS WITH POOR SUBTHRESHOLD SLOPE OR WEAK TRANSCONDUCTANCE

for which we have executed a United States patent application on or about the date of this assignment, and all patent applications and patents of every country for said invention, including divisions, reissues, continuations and extensions thereof, and all rights of priority resulting from the filing of said applications; we authorize the above-named assignee to apply for patents of foreign countries for said invention, and to claim all rights of priority without further authorization from us; we agree to execute all papers useful in connection with said United States and foreign applications, and generally to do everything possible to aid said assignee, their successors, assigns and nominees, at their request and expense, in obtaining and enforcing patents for said invention in all countries; and we request that the United States Patent and Trademark Office issue all patents granted for said invention to the above-named assignee, its successors and assigns.

Executed this	day of	Sept	, 2003.	
		Kazuroli	Kanabako	
			Kazunori Kaneba	ko
State of				•
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County of)				
On	befo	ore me,	•	
personally appeared			per	rsonally known to
me or proved to me on th	e basis of satisfa	actory evidence to	be the person(s) wh	ose name(s)
is(are) subscribed to the v same in his/her/their auth instrument the person(s),	within instrumer forized capacity(	nt and acknowledge (ies), and that by hi	ed to me that he/she s/her/their signature	e/they executed the e(s) on the
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		Tomoharu Tanaka				
State of	*					
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me or proved to me on the basis of is(are) subscribed to the within instance in his/her/their authorized call instrument the person(s), or the entire instrument.	strument and acking action in the strument and acking the strument acking	nowledge hat by his	d to me s/her/the	rson(s) whose that he/she/th ir signature(s	ey executed the	
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#### EXPRESS MAIL NO.: EV 321716341 US ATTORNEY DOCKET NO: SNDK.301US0 U.S. DEPARTMENT OF COMMERCE ECORDATION FORM COVER SHEET PATENT AND TRADEMARK OFFICE PATENTS ONLY TO THE HONORABLE DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE. PLEASE RECORD THE ATTACHED ORIGINAL DOCUMENTS OR COPY THEREOF. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies): Jeffrey W. Lutze (a) Jian Chen (b) Name: SanDisk Corporation (c) Yan Li 140 Caspian Court Sunnyvale, CA94089 Yes No U.S.A. Name and address of receiving party(ies): Name: Assignment Merger Street Address: Security Agreement Change of Name City: State: Zip: Other Country: Additional name(s) & address(es) attached? **Execution Date:** (a) 8/19/03 (b) 8/21/03 (c) 8/21/03 If this document is being filed together with a new application, the execution date of the application is: 8/19/03, 8/21/03, 8/21/03 Patent Application No.(s) -B. Patent No.(s) Title: Additional numbers attached? Yes. No 6. Total number of applications and patents involved: concerning document should be mailed:

Additional name(s) of conveying party(ies) attached? 3. Nature of Conveyance: Application number(s) or patent number(s): 5. Name and address of party to whom correspondence Name: Michael G. Cleveland Internal Address: Parsons Hsue & de Runtz LLP Street Address: 655 Montgomery Street, Suite 1800 7. Total fee (37 CFR 3.41): \$40.00 City San Francisco State CA Zip 94111 A check is enclosed that includes the total fee. Charge Deposit Account 502664 for any additional fees required for this conveyance and credit deposit account 502664 any amounts overpaid DO NOT USE THIS SPACE 8. Statement and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Michael G. Cleveland, Reg. No.: 46,030 Name of Person Signing Signature Total number of pages including cover sheet, attachments, and documents: 3 MAY 0 3 2004

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Parsons Haue & de Runtz LLP

### UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

APRIL 29, 2004

PTAS

PARSONS HSUE & DE RUNTZ LLP MICHAEL G. CLEVELAND 655 MONTGOMERY STREET SUITE 1800 SAN FRANCISCO, CA 94111



\*102567792A\*

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/17/2003

REEL/FRAME: 014542/0082

NUMBER OF PAGES: 8

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

LUTZ, JEFFREY W.

DOC DATE: 08/19/2003

ASSIGNOR:

CHEN, JIAN

DOC DATE: 08/21/2003

ASSIGNOR:

LI, YAN

DOC DATE: 08/21/2003

ASSIGNEE:

SANDISK CORPORATION 140 CASPIAN COURT SUNNYVALE, CALIFORNIA 94089

SERIAL NUMBER: 10665685

PATENT NUMBER:

FILING DATE: 09/17/2003

ISSUE DATE:

014542/0082 PAGE 2

DIANE RUSSELE, PARALEGAL ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS